What Is Claimed Is:

1. A method of providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said method comprising:

provisioning a first switched virtual circuit (SVC) and a second SVC on said ATM backbone;

receiving an IP packet;

determining whether to send said IP packet on said first SVC or said second SVC according to services desired to be provided for said IP packet; and

sending said IP packet on the determined one of said first SVC or said second SVC.

2. The method of claim 1, wherein said determining comprises examining a header of said IP packet.

3. The method of claim 2, wherein said determining further comprises maintaining a table indicating a specific one of said first SVC and said second SVC on which to send IP packets having a specific precedence value in a type of service (TOS) field in said header, wherein said IP packet is sent according to the data stored in said table.

4. The method of claim 3, wherein said table indicates that a plurality of precedence values are to be mapped to the same SVC.

5. The method of claim 3, wherein said provisioning comprises initiating a set up request from a first router to a second router to set up said first SVC, wherein said first router

and said second router interface directly with said ATM backbone, wherein said set up request is sent only after reception of a first IP packet to be sent on said first SVC, wherein said first SVC is provisioned between said first router and said second router.

6. The method of claim 5, wherein said second router also sends on said first SVC the IP packets having the same precedence value as said first IP packet.

7. The method of claim 6, further comprising sending a precedence data from said first router to said second router, wherein said precedence data indicates that the precedence value of said first IP packet is to be associated with said first SVC such that second router can send packets with the same precedence vale on said first SVC.

8. The method of claim 7, wherein said precedence data is contained in signaling set up message representing said set up request.

9. The method of claim 8, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in said signaling set up message.

10. The method of claim 9, wherein each of said first router and said second router comprises an edge router.

11. The method of claim 2, wherein said table stores an IP address, NSAP of said

second router, precedence value and a SVC identifier in each row.

12. A method of providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said method being performed in a receiving router, said method comprising:

receiving in said receiving router a set up request from another router, wherein said set up request requests setting up of a switched virtual circuit (SVC), said another router sending all IP packets having a specific precedence value on said SVC;

configuring said receiving router to terminate said SVC in said receiving router;

sending an acknowledgment confirming setting up of said SVC; and

sending a plurality of IP packets having the same precedence value as said specific precedence value on said SVC.

13. The method of claim 12, further comprising receiving a precedence data from said another router data indicating that said specific precedence value is associated with said SVC.

14. The method of claim 13, wherein said precedence data is contained in a Signaling set up message representing said set up request.

15. The method of claim 14, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in said Signaling set up message.

16. A router for providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said router comprising:

means for provisioning a first switched virtual circuit (SVC) and a second SVC on said ATM backbone;

means for receiving an IP packet;

means for determining whether to send said IP packet on said first SVC or said second SVC according to services desired to be provided for said IP packet; and

means for sending said IP packet on the determined one of said first SVC or said second SVC.

17. The router of claim 16, wherein said means for determining examines a header of said IP packet to determine whether to send said IP packet on said first SVC or said second SVC.

18. The router of claim 17, wherein said means for determining further maintains a table indicating a specific one of said first SVC and said second SVC on which to send IP packets having a specific precedence value in a type of service (TOS) field in said header, wherein said IP packet is sent according to the data stored in said table.

19. The router of claim 18, wherein said table indicates that a plurality of precedence values are to be mapped to the same SVC.

20. The router of claim 18, wherein said means for provisioning initiates a set up

request to another router to set up said first SVC, wherein said set up request is sent only after reception of a first IP packet to be sent on said first SVC, wherein said first SVC is provisioned to terminate at said second router.

21. The router of claim 20, wherein said another router also sends on said first SVC the IP packets having the same precedence value as said first IP packet.

22. The router of claim 21, further comprising means for sending a precedence data to said another router, wherein said precedence data indicates that the precedence value of said first IP packet is to be associated with said first SVC such that another router can send packets with the same precedence vale on said first SVC.

23. The router of claim 22, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in said Signaling set up message.

24. A receiving router for providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said receiving router comprising:

means for receiving in said receiving router a set up request from another router, wherein said set up request requests setting up of a switched virtual circuit (SVC), said another router sending all IP packets having a specific precedence value on said SVC;

means for configuring said receiving router to terminate said SVC in said receiving router;

means for sending an acknowledgment confirming setting up of said SVC; and

means for sending a plurality of IP packets having the same precedence value as said specific precedence value on said SVC.

25. The receiving router of claim 24, further comprising means for receiving a precedence data from said another router data indicating that said specific precedence value is associated with said SVC.

26. The receiving router of claim 25, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in a signaling set up message.

27. A computer readable medium carrying one or more sequences of instructions for causing a router to provide differentiated service to IP packets, wherein execution of said one or more sequences of instructions by one or more processors contained in said router causes said one or more processors to perform the actions of:

provisioning a first switched virtual circuit (SVC) and a second SVC on said ATM backbone;

receiving an IP packet;

determining whether to send said IP packet on said first SVC or said second SVC according to services desired to be provided for said IP packet; and

sending said IP packet on the determined one of said first SVC or said second SVC.

28. The computer readable medium of claim 27, wherein said determining comprises examining a header of said IP packet.

29. The computer readable medium of claim 28, wherein said determining further comprises maintaining a table indicating a specific one of said first SVC and said second SVC on which to send IP packets having a specific precedence value in a type of service (TOS) field in said header, wherein said IP packet is sent according to the data stored in said table.

30. The computer readable medium of claim 29, wherein said table indicates that a plurality of precedence values are to be mapped to the same SVC.

31. The computer readable medium of claim 29, wherein said provisioning comprises initiating a set up request to another router to set up said first SVC, wherein said first router and said another router interface directly with said ATM backbone, wherein said set up request is sent only after reception of a first IP packet to be sent on said first SVC, wherein said first SVC is provisioned between said first router and said another router.

32. The computer readable medium of claim 31, wherein said another router also sends on said first SVC the IP packets having the same precedence value as said first IP packet.

33. The computer readable medium of claim 32, further comprising sending a precedence data to said another router, wherein said precedence data indicates that the

precedence value of said first IP packet is to be associated with said first SVC such that another router can send packets with the same precedence vale on said first SVC.

34. The computer readable medium of claim 33, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in a signaling set up message.

35. The computer readable medium of claim 33, wherein said table stores an IP address, NSAP of said another router, precedence value and a SVC identifier in each row.

36. A computer readable medium carrying one or more sequences of instructions for causing a router to provide differentiated service to IP packets transported on an asynchronous transfer mode (ATM) backbone, wherein execution of said one or more sequences of instructions by one or more processors contained in said router causes said one or more processors to perform the actions of:

receiving in said receiving router a set up request from another router, wherein said set up request requests setting up of a switched virtual circuit (SVC), said another router sending all IP packets having a specific precedence value on said SVC;

configuring said receiving router to terminate said SVC in said receiving router;

sending an acknowledgment confirming setting up of said SVC; and

sending a plurality of IP packets having the same precedence value as said specific precedence value on said SVC.

37. The computer readable medium of claim 36, further comprising receiving a precedence data from said another router data indicating that said specific precedence value is associated with said SVC.

38. The computer readable medium of claim 37, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in a signaling set up message.

39. A router for providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said router comprising:

an inbound interface receiving an IP packet;

a memory storing an SVC table indicating that a first switched virtual circuit (SVC) and a second SVC are provisioned on said ATM backbone;

an encapsulator determining whether to send said IP packet on said first SVC or said second SVC according to services desired to be provided for said IP packet, said encapsulator generating a plurality of cells designed for transmission on the determined one of said first SVC or said second SVC; and

an output interface sending said plurality of cells on said ATM backbone.

40. The router of claim 39, wherein said ATM encapsulator examines a header of said IP packet to determine whether to send said IP packet on said first SVC or said second SVC.

41. The router of claim 40, wherein said table indicates a specific one of said first

SVC and said second SVC on which to send IP packets having a specific precedence value in a type of service (TOS) field in said header, wherein said IP packet is sent according to the data stored in said table.

42. The router of claim 41, wherein said table indicates that a plurality of precedence values are to be mapped to the same SVC.

43. The router of claim 42, further comprising a signaling block for initiating a set up request to another router to set up said first SVC, wherein said set up request is sent only after reception of a first IP packet to be sent on said first SVC, wherein said first SVC is provisioned to terminate at said second router.

44. The router of claim 43, wherein said another router also sends on said first SVC the IP packets having the same precedence value as said first IP packet.

45. The router of claim 44, wherein said signaling block sends a precedence data to said another router, wherein said precedence data indicates that the precedence value of said first IP packet is to be associated with said first SVC such that another router can send packets with the same precedence vale on said first SVC.

46. The router of claim 45, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in a signaling set up message.

47. The router of 41, wherein said table stores a network service access point (NSAP) address and IP address of an edge router at the next hop associated with each SVC, wherein said encapsulator sending as a key to said table a IP address of edge router at the next hop and a precedence value in each received IP packet to determine whether to send said IP packet on said first SVC or said second SVC.

48. A receiving router for providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said receiving router comprising:

an input interface receiving a set up request from another router, wherein said set up request requests setting up of a switched virtual circuit (SVC), said another router sending all IP packets having a specific precedence value on said SVC;

a memory storing information indicative of SVCs provisioned terminating in said receiving router;

a signaling block configuring said memory to terminate said SVC in response to receiving said set up request, said signaling block sending an acknowledgment confirming setting up of said SVC;

an encapsulator generating a plurality of ATM cells designed for transmission on said SVC, said ATM cells containing an IP packet having the same precedence value as said specific precedence value; and

an output interface sending said plurality of cells on said SVC.

49. The receiving router of claim 48, wherein said signaling block receives a

precedence data from said another router data indicating that said specific precedence value is associated with said SVC.

50. The receiving router of claim 49, wherein said precedence data is contained in a signaling set up message representing said set up request.

51. The receiving router of claim 50, wherein said precedence data is encoded in a broadband higher layer information (BHLI) information element (IE) contained in said signaling set up message.